

SITE WORK PLAN

STORM WATER DRAIN EXCAVATION, CLEANING, REMOVAL, AND REPLACEMENT AT BUILDINGS 5 and 400 ALAMEDA POINT, ALAMEDA, CALIFORNIA (FORMERLY NAVAL AIR STATION, ALAMEDA, CALIFORNIA)

**Project No. USN 97-032
Phase III**

Submitted to:

U.S. Army Industrial Operations Command

Rock Island, IL 61299-6000

Submitted by:

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Revision 1

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SITE WORK PLAN APPROVALS

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Revision 1
April 1998

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SITE WORK PLAN, SITE HEALTH AND SAFETY
PLAN, SITE QUALITY ASSURANCE PLAN
PHASES III AND IV
STORM WATER DRAIN EXCAVATION, CLEANING,
REMOVAL, AND REPLACEMENT AT
BUILDINGS 5 AND 400
REVISION 2

DATED 01 JULY 1998

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A	Site Location Map

List of Acronyms

ANSI	American National Standards Institute
°C	Degrees Celsius
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CRZ	Contamination Reduction Zone
Daily Logs	Daily Log
dpm	disintegrations per minute
DOT	Department of Transportation
EPA	Environmental Protection Agency
EZ	Exclusion Zone
°F	Degrees Fahrenheit
GFCI	Ground Fault Circuit Interrupter
HAZWOPER	Hazardous Waste Operations and Emergency Response
HS	Health and Safety
IOC	Industrial Operations Command
IR	Installation Restoration Site
LEL	Lower Explosive Limit
μCi	Micro Curies
MSDS	Material Safety Data Sheet
NWT	New World Technology
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PID	Photo ionization Detector
PM	Project Manager
PPE	Personal Protective Equipment
PS	Project Supervisor
Ra	Radium
ROICC	Resident Officer In Charge Of Construction
SHSO	Site Health and Safety Officer
SHASP	Site Health and Safety Plan
TBE	To Be Established
TSM	Tailgate Safety Meeting
USA	Underground Services Alert
USCOE	U.S. Army Corps of Engineers
USN	U.S. Navy
UST	Underground Storage Tank

Title

New World Technology (NWT) Project Work Plan for Alameda Point, Radium Contaminated Sewer Line Removal Project, US IOC contract number USN 97-032, Phase III.

1.0 Introduction

This project involves the removal of approximately 1,000 linear feet of sewer line located at two locations on the site formerly known and operated as the Naval Air Station, Alameda, in Alameda, California. (Refer to the Drawings and Contract Documents for exact locations and quantities of materials expected to be removed during this contract.)

800 linear feet of the pipeline is located in Building 400 and 200 linear feet of the pipeline is located in Building 5. The pipelines are of various sizes with the majority measuring 24-inches (ID), the maximum and minimum sizes are 6-inches (ID) and 48-inches (ID), respectively. The pipeline to be removed begins within the interior of the structures and will be removed and replaced out to the first terminator (manhole) on the exterior of the buildings. Additional lines, not physically connected to the sewer line, run parallel to the pipeline to be replaced and consist of gas service, water and additional sewer/storm drains. Work shall include the blinding and removal of various piping at the terminal point, complete removal and cleaning of the subject pipeline prior to disposal, and the removal and disposal of incidental contaminated soils or ground waters encountered during the removal operations.

Finally, all areas disturbed during the removal portion of the contract shall be restored to their former condition prior to demobilization from the project site.

2.0 Purpose

This plan describes the work methodology, hazardous material and occupational safety requirements, and the safeguarding of protected waterways near San Francisco Bay.

Additionally, this plan describes the activities applicable to the pipeline exhumation including, the identification, packaging, transportation and shipment for disposal of any radium contaminated materials. Methodologies concerning the decontamination and segregation of the wastes is also included in this document. Work procedures for the installation of the replacement line will be included as an appendix to this document. The hazardous material and occupational requirements of this plan are based on a preliminary assessment of potential hazards and may be reevaluated and modified with the concurrence of the NWT Corporate Health and Safety Manager, Operations Technical Support, and the Project Manager, US Industrial Operations Command.

3.0 References

1. Andrews, Lori P. Worker Protection During Hazardous Waste Remediation. The Center for Labor Education and Research
2. Keith, Lawrence H. Environmental Sampling and Analysis. Lewis Publishers
3. US EPA, 1988. A Compendium of Superfund Field Operations Methods
4. US EPA, 1992. Guidance for Data Usability in Site Assessment
5. US EPA, 1986. Test Methods for Evaluating Solid Waste, 3rd Edition, Volume II
6. NIOSH, NIOSH Manual of Analytical Methods, 4th Edition
7. CCR Title 8, Division 1, Chapter 4, Subchapter 4. General Industry Safety Orders
8. CCR Title 22, Division 4. Environmental Protection.
9. CFR 10. Energy
10. CFR 29. Labor
11. CFR 40. Protection of the Environment.
12. CFR 49. Transportation
13. US COE, 1996. Safety and Health Requirements Manual (EM385-1-1).
14. BAAQMD, 1997. Rules and Regulations 1 through 13
15. U.S. NRC, NUREG 5849
16. U. S. NRC Reg Guide 1.86

4.0 Scope of Work

4.1 Pre-construction Meetings

Pre-Construction Meetings - Prior to any on-site activities the NWT project team will meet with the IOC representatives, the Facility representatives, and any regulatory agency representatives to insure that all aspects of the Project Work Plan (PWP) meet all of the requirements for the project as specified.

4.2 Health and Safety Plan

OSHA Site Health & Safety Plan (29 CFR 1910.120(b)(1)) - This plan addresses the possibility of discovering materials identified and not identified in the Scope of Work and any physical hazards that may be encountered during the performance of the contract. All personnel at the work site shall have successfully completed the 40-hour HazWOPER Course, and refreshers as necessary.

Additionally supervisory personnel shall have the 8-hour supervisory training as mandated by 29 CFR 1920.120. The plan will require all personnel to provide evidence of current OSHA training (29 CFR 1910.120(e)(6)) and medical certification (29 CFR 1910.120(f)).

4.3 Project Schedules

The project schedule currently requires thirteen weeks of on site effort which includes two weeks of obstruction removal in Building 5 with a reduced crew and eleven weeks of pipe removal and replacement. For the purpose of this project schedule, Day 1 will be the first day that personnel are on site at Alameda Point.

The work to be performed under this specification is detailed under Section 6.0 of this document and includes all items previously discussed.

5.0 Radioactive Material Control Program

- 5.0.1 NWT and any other personnel assigned to or visiting the site shall attend a project Safety briefing provided by the Project Manager/SHSO or designee and documented prior to performance of the work. This briefing shall include hazardous/radiological material awareness training, occupational health and safety, and provide details of the work scope to be performed.
- 5.0.2 Documented Regulatory, OSHA, and Industrial Safety briefings will be held in accordance with the references and the SHASP prior to and at mobilization to the site.
- 5.0.3 A barrier shall be erected around all excavation areas and all work areas shall be properly posted for both hazardous/radiological material control and industrial safety considerations. Additional signs and postings will be as specified in the Project Health and Safety Plan and NWT field operations procedures.
- 5.0.4 Cognizant Facility authorities (i.e., Facility Security, Facility Safety Office etc.) shall be kept apprised of the project status during all phases of operation. The Project Manager/SHSO shall document these verbal or written reports in the daily logbook.
- 5.0.5 All aboveground storage of hazardous/radiological material shall be contained in approved transport containers. For any pipe decontamination efforts, ground cover shall extend at least 5 feet in all directions beyond the materials. Covering shall overlap at least three feet and all edges weighted to prevent loss of the cover. The area shall be posted as required in accordance with references.
- 5.0.6 All soil excavated from the site shall be segregated into discreet and identifiable containers and stored on-site in the designated storage area(s).
- 5.0.7 All material excavated shall be segregated until sampling has been performed and approval is obtained from the IOC or RASO as to the disposition of the material.
- 5.0.8 Release surveys of equipment will be performed after a complete decontamination, (see Site Specific Health and Safety Plan for details of decontamination requirements). All surveys shall be documented in accordance with NWT field operations procedures.

- 5.0.9 The Project Manager/SHSO, for all job tasks involving entry into a confined space shall initiate a Confined Space Work Permit (CSWP). The CSWP will detail all hazardous/radiological material and safety requirements for a particular task. Specific details and requirements of the confined space entry procedures are detailed in the Project Health and Safety Plan along with samples of the forms required.
- 5.0.10 Respiratory protection is may be required, therefore all on-site personnel shall be qualified and have a documented fit-test as required in accordance with the references. Respiratory protection is anticipated as a contingency only. Air monitoring in accordance with the Project Health and Safety Plan will be used during all operations.
- 5.0.11 The following instruments, at a minimum, (or equivalent) will be calibrated and maintained in accordance with the manufacturers recommendations and shall be on-site for use during the project:

<u>Manufacturer</u>	<u>Inst./Probe</u>	<u>Type</u>	<u>Quantity</u>
Thermo Inst.	580 B	PID	1
Gastech	GT 302	4 Gas Meter	1
Ludlum	M3/44-9	β/γ Meter	2
Ludlum	2929	Counter	1
Ludlum	M19	Dose Rate	1
F&M	HV-1	Air Sampler	2
F&M	LV-1	Air Sampler	1

- 5.0.12 Only qualified personnel in accordance with the references will perform shipments of hazardous/radiological materials and/or waste.
- 5.0.13 Certifications of Decontaminated Equipment will be acquired from all rental venders used.

6.0 Detailed Procedure

The project work will be divided into four phases. Phase I will include initial mobilization and the identification and delineation of all work areas and removal of obstructions from the line areas in Building 5. Phase II will involve the initial excavation and preparation of the pipeline for removal. Phase III will be the exhumation, removal, decontamination and packaging of the waste materials for disposal. Phase III will include the performance of surveys and soil sample analysis of the excavation areas to ensure all radiological materials are removed to the limits specified. Phase IV will be replacement of the sewer lines, shipment of wastes and final demobilization.

ALL WORK WILL BE PERFORMED IN A SAFE AND CONSCIENTIOUS MANNER. THE WORK INSTRUCTIONS AND REQUIREMENTS OF THE NWT HEALTH AND SAFETY PLAN AND PROJECT WORK PLAN FOR THIS PROJECT WILL BE REVIEWED WITH THE WORK FORCE PRIOR TO THE START OF WORK AND SHALL BE ADHERED TO AT ALL TIMES WHILE ON THE WORK SITE.

NOTE: THE PHYSICAL CONDITION OF PIPELINES IS NOT KNOWN. CAUTION WILL BE UTILIZED DURING THE EXCAVATION AND REMOVAL PROCESSES TO PREVENT RELEASES TO THE ENVIRONMENT. SHOULD PHYSICAL DETERIORATION BE OBSERVED, WORK SHALL STOP AND THE CONDITION OF THE PIPELINES EVALUATED TO DETERMINE IF THE PLANNED REMOVAL METHODS ARE APPROPRIATE.

NOTE: RADIUM, ITS DAUGHTER PRODUCTS, AND/OR HYDROGEN SULFIDE ARE THE SIGNIFICANT HAZARDOUS MATERIALS ANTICIPATED HOWEVER, OTHER MATERIALS MAY BE PRESENT. GOOD HAZARDOUS MATERIAL / HAZARDOUS WASTE WORK PRACTICES SHALL BE EMPLOYED AT ALL TIMES.

NOTE: DURING EXCAVATION, SOIL SAMPLES SHALL BE COLLECTED ON INCREMENTS AS DIRECTED IN THE SPECIFICATIONS AND THE APPROVED WORKPLAN TO DETERMINE THE PRESENCE OR ABSENCE OF RADIOLOGICAL CONTAMINATION IN THE SURROUNDING SOILS.

6.1 Mobilization on Site.

- 6.1.1 Travel to site.
- 6.1.2 Set up on-site facilities (office, supply trailer, etc.)
- 6.1.3 Train personnel in site-specific hazardous/radiological material control procedures, industrial safety and procedural controls. Training to be given by the Project Manager/SHSO.
- 6.1.4 Remove the physical obstructions from Building 5.
- 6.1.5 Verify all personnel records required by the project specifications.
- 6.1.6 Obtain Facility excavation permit.
- 6.1.7 Contact Underground Service Alert for excavation approval number.
- 6.1.8 Coordinate with local Hospital for emergency services.
- 6.1.9 Coordinate with Facility Security to obtain personnel I.D.'s and vehicle passes where necessary.

6.2 Identification of Work Areas.

- 6.2.1 Using hand held magnetometers (Schonstedt 72 CV) survey the areas surrounding the pipelines to be removed. Note any possible crossing lines that may interfere with excavation activities.
- 6.2.2 Barricade and post the designated work area as “Radiological Material Area”, “RWP Required for Entry” and “Authorized Personnel Only”.
- 6.2.3 Perform Lock Out / Tag Out Procedures on any electrical/flow regulatory service that may be associated with the pipeline scheduled for removal.
- 6.2.4 Perform and document a survey to determine background readings throughout the planned work area. This survey will be utilized to verify that contaminated materials are not left at the conclusion of the project.
- 6.2.5 A prefabricated trench box will be installed in all excavations to prevent trench collapse. This box shall be moved as the excavation lengthens and backfilling is performed in other sections of the trench.
- 6.2.6 Work areas shall be fenced as a barricade against inadvertent entry of unauthorized personnel.

6.3 Initial Excavation of the Contaminated Pipelines

- 6.3.1 All surfacing materials are to be considered clean for the purposes of this work plan. All asphaltic and concrete debris will be segregated, stockpiled, and disposed of as construction debris at the appropriate Class III disposal facility. If recycling of the asphaltic materials is determined to be logistically possible, this waste stream will be diverted to the appropriate recycling facility.
- 6.3.2 Soils removed to the upper surface of all sewer pipelines (overburden) will also be considered clean for the purposes of this work plan. Confirmatory samples will be taken as a precautionary measure, once every 20 linear feet of pipeline or every 10 cubic yards of material removed, whichever is less. The total estimated volume of soils and pipe to be removed is approximately 1000 cubic yards, with 200 yards assumed to be contaminated with radium exceeding the release concentration.
- 6.3.3 All soils removed will be stockpiled in pre-positioned transport containers (25 cubic yard roll off containers) to prevent the spread on contamination to the surrounding environment.
- 6.3.4 Initial excavation of the pipeline shall be performed in stages, exposing the entire upper portion of the pipeline in one operation, and then proceeding to excavate below the upper portion of each successive portion of pipeline to be removed. This process will enable the work crew to identify any failed sections of lines, possible interferences, or other situations that may require a modification to the work plans.
- 6.3.5 All materials removed from below the upper surface of the pipeline will be considered potentially contaminated, until soils testing confirms the presence or absence of radium or other hazardous material contamination. These materials will be segregated and stored separately from the materials removed from above the pipeline (overburden). These containers will be clearly marked and under radiological controls until clearance sampling has been performed and the Project HP determines that there is no Radium contamination above the project limits.
- 6.3.6 An engineered trench box will be positioned as each section of pipeline is excavated and prepared for removal. This will allow trench entry, contingent on satisfactory completion of the CSWP where required, for pipeline plugging, sampling and line inspection, as needed. The engineered trench box will be moved down the trench as each successive section of pipeline is exposed and removed.

6.4 Removal of Contaminated Pipe.

NOTE: DURING ANY LINE ENTRIES, PRECAUTIONS WILL BE TAKEN TO ENSURE THAT UNAUTHORIZED RELEASES OF RADIOACTIVE MATERIALS ARE PREVENTED. SPILL PREVENTION PRACTICES AS OUTLINED IN THE NWT HEALTH AND SAFETY PLAN AND FIELD OPERATIONS PROCEDURES WILL BE USED AT ALL TIMES

- 6.4.1 Locate and identify the location of the line section to be removed. Locate other utility or service lines that cross (or potentially cross) the section being removed.
- 6.4.2 Mark the surface material (concrete/asphalt) using paint along the centerline of the pipe.
- 6.4.3 Based on the diameter of the pipe section being removed, use a chalk line to mark the edges of the trench. The edge of the trench will be measured from the centerline of the pipe and the distance will be calculated by adding the radius of the pipe plus one-foot.
- 6.4.4 The pipe section will be isolated at a designated manhole or end section of above grade pipe upstream of the section to be removed. The downstream section will be plugged at the first manhole from the section to be removed.
- 6.4.5 Temporary piping will be routed from either the manhole upstream or the cut end of the above grade pipe to the first available downstream manhole from the section to be removed. A submersible pump will be utilized for effluent transport if the upstream termination point is in an existing manhole.
- 6.4.6 The surface material will be saw cut along the trench chalk line. Manholes will be saw cut two feet greater than the perimeter of the manhole.
- 6.4.7 Once the surface has been cut, a hydraulic breaker, mounted on a backhoe or excavator, will be used to break the concrete into manageable pieces. Concrete pieces or asphalt will be removed with the backhoe or excavator and loaded directly into dump trucks for transport to a concrete/asphalt recycling facility for recycle as engineered fill.

- 6.4.8 Soils will be excavated using the backhoe/excavator and loaded into dump trucks for transport to a staging area for analysis prior to disposal. Sidewalls of the trench will be protected using trench shoring boxes and/or hydraulic jacks. Areas of the trench containing crossing utility lines will be excavated by hand to expose the crossing utilities prior to excavating with the backhoe/excavator.
- 6.4.9 Once the top of the pipe is uncovered, extreme care shall be used not to break or disrupt the existing integrity of the pipe. Periodic inverts will be taken to identify the existing elevations of the pipe. One foot of soil will be excavated along each side of the pipe to completely expose the pipe.
- 6.4.10 Piping will be inspected for integrity, and the ends sealed with plastic. Upon initial lift, the pipe will be contained in a plastic wrap prior to removal from the trench area.
- 6.4.11 The removed sections of piping will be evaluated for decontamination or volume reduction efforts once removed from the trench. Should decontamination appear feasible, a decontamination area will be established in a facility-designated location.
- 6.4.12 After the pipe section has been removed from the trench, remove an additional foot of soil.
- 6.4.13 Perform a survey using a count rate instrument with a 2" X 2" NaI detector. Note any areas exceeding the pre-determined background count rate. Any areas clearly indicating residual radium contamination will require further soil removal. Direct approval of the Project Manager is required for any additional soil removal, following notification of the IOC Project Manager and RASO. Photograph the trench at the conclusion of the removal operation and during subsequent backfill and replacement operations.
- 6.4.14 When ground water is encountered in the excavation, the water will be pumped to a temporary, 20,000 gallon holding tank. The water will be treated by filtration with particulate filters followed by an activated carbon bed filtration. Following sampling and analysis, the water will be discharged as designated by the discharge permit.
- 6.4.15 Obtain composite soils samples from the trench area at a rate of two per ten feet of excavation. The samples will be analyzed for residual radium. If the analysis indicates that concentrations exceed the release limit, additional soil removal will be required. Direct approval by the Project Manager is required prior to any additional soil removal, following notification of the IOC Project Manager and RASO. See Section 6.6 below.

- 6.4.16 Once the trench is verified radiologically clean, backfill will be placed and compacted as specified in the technical specification, with clean approved fill material to within six inches of the bottom elevation of the new pipe. Six inches of bedding sand will be placed and compacted. Elevations will be verified by laser level. See Section 6.7 below.
- 6.4.17 Following any corrections in elevation, install the new pipe and verify invert elevations.
- 6.4.18 Perform a survey of the designated work area to verify that no inadvertent spread of contamination has occurred. Any area indicating levels of loose surface contamination exceeding 300 dpm/100 cm² beta gamma, or 100 dpm/100 cm² of alpha activity will require decontamination.
- 6.4.19 Repeat the above until all identified piping has been removed and replaced.
- 6.4.20 Pre-cast manholes will be used to replace existing manholes. The bottom elevation will be verified prior to placing the manhole base. Sections will be installed in accordance with the technical specification.
- 6.4.21 Following installation of all pipe and manholes, the system will be tested, inspected and approved prior to backfilling. Upon acceptance, the backfilling will be completed and the surface finished to match existing adjacent surfaces.

6.5 Cleaning and Storage of the Contaminated Pipeline.

- 6.5.1 Samples of the material in the interior of the pipeline shall be taken when the pipeline is initially brought to the cleaning and storage area. All materials from the interior of the pipeline will be considered contaminated until proven otherwise.
- 6.5.2 Photographs of the pipeline shall be taken for project archives.
- 6.5.3 Each section of line shall be sequentially numbered for identification and reporting.
- 6.5.4 The pipeline will be washed using pressure washers and all rinsate and materials collected and stored as contaminated materials pending sample analysis. The pipeline will then be moved to a temporary survey area, and a surface survey for the presence of residual Radium contamination will be performed.

- 6.5.5 If further cleaning is required, the pipeline will be pressure washed one additional time. If subsequent surveys indicate that the pipeline is still contaminated, more aggressive removal techniques will be employed including, surface scabbling, chipping, and breaking. If the contamination is found to extend throughout the pipeline, the decision will be made to dispose of the pipeline whole.
- 6.5.6 Air monitoring will be performed whenever aggressive surface removal techniques are employed in the decontamination of the pipelines.
- 6.5.7 Surface wetting will be the primary engineering control during these operations to prevent the release of airborne contaminants.
- 6.5.8 It is not anticipated that surfactants or other additives will be used in the cleaning process. If these types of materials are to be used, a MSDS shall be forwarded to the SHSO prior to the delivery of the materials
- 6.5.9 During all cleaning activities utilizing pressure washers, personnel possibly exposed to the spray will be outfitted in the appropriate personal protective equipment (PPE) as outlined in the SHASP. This equipment will include, but is not limited to, respiratory protection, rain suits, gloves, boots, and leg and metatarsal guards.
- 6.5.10 When a section of pipeline is determined to be below the release limits set in the contract the pipeline will be moved to a clean disposal storage area, and broken up for easier transport and disposal.
- 6.5.11 Every section of pipeline shall be tracked using the identification number issued when the pipeline section was first brought to the cleaning and storage area.
- 6.5.12 A logbook detailing the progress of the pipeline sections shall be maintained and available for inspection at the pipeline cleaning and storage area.
- 6.5.13 Photographs of the cleaning and survey operations will be taken for the project archives.

6.6 Over-excavation of Potentially Contaminated Soils.

- 6.6.1 Areas below the removed pipeline shall be surveyed, as required, prior to the installation of the new pipeline.

- 6.6.2 Surveys will be performed both remotely or after successfully completing a CSWP, and entering the trench. These surveys will include the use of hand held direct reading instruments, and as directed the recovery of suspect soils for more detailed analysis.
- 6.6.3 Over-excavation of contaminated soils will only be performed after receiving written permission to proceed from the US IOC representative at the site.
- 6.6.4 The written authorization to proceed should include a not to exceed on the amount of soil to be removed.
- 6.6.5 Soils removed during overexcavation activities will be considered contaminated, and will be segregated, transported, and stored as such pending the results of the soil analysis.
- 6.6.6 At no time will overexcavation be allowed that might undermine the foundation of a structure or nearby pipeline.
- 6.6.7 After completing the overexcavation, more samples will be collected to determine if additional soils need to be removed to achieve the project objectives.
- 6.6.8 A third party contractor will perform confirmatory sampling. Notification of a sampling requirement will be made at least 2 hours prior to the required sampling time.

6.7 Filling of Trenches and Excavations.

NO FILLING OPERATIONS WILL BE UNDERTAKEN PRIOR TO THE RECEIPT OF WRITTEN PERMISSION RECEIVED FROM BOTH THE IOC AND THE COUNTY OF ALAMEDA OR OTHER RESPONSIBLE AGENCY.

- 6.7.1 All filling operations shall be accomplished using clean, debris free materials. Wherever possible the native materials previously removed shall be used as backfill for the trenches and excavations.
- 6.7.2 Where there is insufficient and/or unsatisfactory materials available for filling operations, clean import materials shall be obtained and placed by the work crews.

- 6.7.3 Materials shall be placed in the trenches/excavations in 18 inch lifts when replacing all areas, and compacted using either a "Sheep's Foot" attachment for the excavator or a hand operated, gas powered tamper. Compaction will be determined using field density tests to insure conformance with the project specifications, however significant ground water intrusion will degrade this compaction efficiency. If ground water is impacting the excavation, bridging materials will be used to form a suitable base for the compaction of the soils.
- 6.7.4 At no time will personnel enter an excavation greater than 4 feet deep in order to compact soils. In a trench/excavation greater than 4 feet deep only remote compaction methods will be used.
- 6.7.5 In areas that will require the placement of asphalt and/or concrete as the final layer of backfill materials will be compacted to the percentage as specified in the contract drawings. Compaction in all areas will be as specified in the project specifications and technical drawings.
- 6.7.6 All areas disturbed during operations shall be returned to the pre-existing grade using the methods of filling mentioned above.

6.8 Concrete and Asphalt Removal and Replacement.

- 6.8.1 All removal operations will follow the project specifications and drawings for cut back and angle of cut. NWT personnel will supervise and assist the subcontractor in locating, cutting, and removing the affected areas as needed during the project. Materials removed shall be stockpiled and sorted by type for disposal.
- 6.8.2 All concrete/asphalt removal operations shall be accomplished at one time, as will the replacement operations.
- 6.8.3 All replacement materials shall meet or exceed the requirements of the project specifications of ABC and asphalt. Certifications for the materials as well as test results will be supplied to the Facility prior to the installation of the materials.
- 6.8.4 All concrete and asphaltic debris resulting from the removal operations shall be disposed of at an approved Class III landfill.

6.9 Shipment of Waste.

- 6.9.1 All wastes generated during the performance of this contract, except those listed below shall be disposed of at Envirocare of Clive, Utah.

- 6.9.2 Wastes not destined for Envirocare;
 - 1. Clean soils, unsuitable for reuse as backfill
 - 2. Clean concrete and asphaltic debris
 - 3. Pipeline rubble and debris found to be below release limits
- 6.9.3 All radioactive waste shipments shall be accompanied by a Uniform Hazardous Waste Manifest signed by the ALAMEDA POINT Facility Manager or his designated replacement as the generator.
- 6.9.4 Other wastes to be shipped to the Envirocare facility include any contaminated soils, piping, the materials removed from the interior of the pipeline, as well as any rinsate and contaminated PPE.

6.10 Demobilization.

- 6.10.1 Decontaminate all equipment and remaining supplies for unrestricted use.
- 6.10.2 Remove all postings and signs related to the project.
- 6.10.3 Clear any debris or scrap materials remaining on the project site.
- 6.10.4 Insure that all waste streams have been transported to the appropriate disposal sites.
- 6.10.5 Perform a final inspection and photographic tour of the project site with the US IOC representatives, County of Alameda representatives, and Facility representatives.
- 6.10.6 Remove and transport all equipment from the project site.

7.0 Reports and Records

During the execution of this project the following reports will be submitted;

1. Daily Quality Control Reports
2. Survey Summaries (including quantity calculations)
3. Manifests for California Designated Waste Disposal
4. Quality Control Reports of Geotechnical and Materials Testing
5. Documentation of Disposal
6. Safety reports
7. Coordinating Documentation with the regulating agencies
8. Air Sampling Results
9. Daily Safety Inspection Logs
10. Site Specific Training Logs
11. Site Control Logs
12. Accident Reports
13. Incident Reports

Within 30 days of the completion of the demobilization portion of the project, a final report will be issued to the US IOC Contracting Officer. All activities on site will be documented in narrative with photographic support. This final report will include the following sections;

- A cover letter signed by the Project Manager certifying compliance with the project specifications.
- On site activities narrative in chronological order. To include the following;
 1. Condition and contents of all sewer pipeline components.
 2. Photographic documentation of all activities.
 3. Sample results, with supporting field data, for all analyses performed on the contract.
 4. Backfilling methods and materials.
 5. Depth of groundwater, if any was encountered.
 6. Copies of all waste analyses, profiles and manifests.
 7. Transporter and Disposal Site certifications.
 8. Copies of all Logbooks maintained on the project site.
 9. Disposal certificates (as available) for all hazardous/radiological disposal.

At project completion, the NWT Project Manager/SHSO or designee is responsible for the development and submittal of the Final Report. The Final Report will be reviewed and approved by the Program Director prior to submittal to the Government. The Final Report will include all radiological material and Health & Safety survey documentation, a detailed narrative of the project with photographs, and shipping and disposal documentation.

Appendix A

Site Location Map

